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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/456,371

Filing Date: December 08, 1999

Appellant(s): BOLLMANN ET AL.

Kristopher K. Hullibarger  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/2/2008 appealing from the Office action mailed 6/5/2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is substantially correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct based on the Second Interpretation (structural features) of the terms "rigid" and "flexible", see Section (9) below for the interpretation.

However, for the First Interpretation (composition properties) of these terms, the examiner reinstates the following withdrawn grounds of rejection as

**NEW GROUND(S) OF REJECTION**

Claims 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Renzo [FR 2559862A, English Translation].

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

FR 2559862A                   Renzo                           8-1985

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

It should be noted that in independent claim 19 the terms “rigid” and “flexible” (added in an amendment filed 2/23/2006) appear solely in the background section of specification at page 1, lines 20-39. Since these terms are absent from the remainder of the specification, their scopes are not defined in the original specification. In previous amendments, appellants have argued two different interpretations for intended scopes of these terms. In response, the examiner has provided two different grounds of rejections respectively as set forth below.

The two different interpretations of the terms are:

First Interpretation (composition properties)

More particularly, in response to the amendments filed 2/23/2006, since the terms “rigid” and “flexible” are used to describe the properties of “metal”, “rubber”, and “microcellular polyurethane elastomer” in the background section of the original specification, they are interpreted as meaning the inherent material or composition properties, not structural features, in Office action mailed 9/25/2006.

Second Interpretation (structural features)

However, appellants argue in Remarks filed 1/2/2008 page 9

"Applicants have directed the Examiner to Figure 6 of Renzo that illustrates the thermoplastic bellow 50 as being flexible and moved between a compressed and an uncompressed state, thus ***not rigid.***"

In other words, appellants argue that the intended scopes of the terms relate to structural features of an article.

Furthermore, it is noted that appellants have provided following dictionary definitions in Remarks filed 4/28/2008 page 16

"Webster dictionary defines rigid as "very firm rather than pliant in ***composition or structure*** : lacking or devoid of flexibility : inflexible in nature" and defines flexible as "characterized by ready capability for modification or change, by plasticity, pliancy, variability, and often by consequent adaptability to new situations".." [emphasis added]

A. Rejections based on Second Interpretation (structural features)

In response to appellants' Remarks filed 4/28/2008 page 16, as set forth above, in which appellants argue that the terms "rigid" and "flexible" relate to structural features, the grounds of rejections in Final action mailed 6/5/2008 are maintained as follows:

A.1. The amended specification and drawings filed 11/17/2003, and the structure of claim 23 added 9/7/2001, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. They contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More particularly, in an interview on 11/14/2007 appellants argue that the support for the structure of claim 23 is supported by the amended specification and drawings in an amendment filed 11/17/2003, which was entered in an Office action mailed 1/7/2004. However, while the amendments have been entered, upon a careful review since the amended specification and drawings filed 11/17/2003 are unsupported in the original specification, these amendments and

claim 23 added 9/7/2001 are deemed to contain new matter. Applicants must cancel new matter, or provide a clear support in the original specification. In particular, the new matter contained in the amended specification cannot be a basis for the structural feature (new matter) of claim 23.

A.2. Claims 19, 20, 22, 23 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More particularly, in accordance to appellants' argument filed 1/2/2008 that the terms "rigid" and "flexible" are structural features of the damping elements. However, throughout the original specification, nowhere can a support be found for these terms as describing structural features. Absence of a clear support, they are deemed to be new matter.

A.3. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More particularly, the structural limitation "elastomer layer is bonded to an outer surface of said molding" in claim 23 is vague and indefinite, because the original specification lacks any disclosure of a workable embodiment having a structural relationship which can be reasonably interpreted as a support for the claimed limitation. It is unclear what constitutes the scope of the term "outer surface".

#### **NEW GROUND(S) OF REJECTION**

B. Rejections based on Second Interpretation (composition properties)

It should be noted that the following grounds of rejection were previously withdrawn in Office action mailed 1/28/2008, because appellants had argued in Remarks filed 1/2/2008 that the intended scope of the terms “rigid” and “flexible” relate to structural features, not composition properties, as set forth above. However, in present Brief filed 12/5/2008 page 16, appellants have changed their interpretation of the terms “rigid” and “flexible” as inherent composition properties with the following argument

“Applicant submits that the specification, as referenced above in the table, explicitly states the advantage and function of the claimed invention comprising the rigid TPU molding and flexible elastomer. Specifically, the specification as originally filed states, “It is well known that microcellular polyurethane elastomers can be used as a flexible element replacing the rubber”. This disclosure supports explicitly that the microcellular polyurethane elastomer is flexible.”

As such, should the terms “rigid” and “flexible” are to be considered as inherent composition properties, the following grounds of rejections [see Office action mailed 10/3/2007] are reinstated.

B.1. Claims 19, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Renzo [FR 2559862A, English Translation].

Renzo’s invention relates to a damper (shock absorber) for automobile suspension system. Figs. 5 and 6 illustrate that the damper comprises a bellows 50, made of a material with a high modulus of elasticity (rigid), and an internal core 51, made of a cellular elastomer (flexible). The bellows 50 has wall of small thickness, and is a molded thermoplastic polyurethane (TPU) resin having very high fatigue strength and great reliability. The cellular elastomer 51 is foamed polyurethane (PU) which is developed within (foamed *in situ*) and bonded to the internal surface of bellows 50. The foam density produces the required dynamic compression curve [pp. 4-5].

For claims 19 and 22, regarding the terms “rigid” and “flexible”, since the sole presence of these terms in the original specification are in the background section describing the properties of “metal”, “rubber”, and “microcellular polyurethane elastomer” of prior art, these terms are interpreted as relative rigidity or flexibility inherent to the composition of materials. Since Renzo teaches the same compositions as the claims invention, their relative rigidity or flexibility are deemed to be inherent to the same chemistry. Renzo is silent about: 1) the exact wall thickness of the bellows, and 2) the foamed PU is chemically bonded to the TPU of bellows. However, regarding 1), since Renzo discloses the same subject matter for the same end use (a shock absorber for a vehicle suspension system) as the claimed invention, and teaches that the bellows has small thickness, but very high fatigue strength and great reliability, a workable bellows of small thickness is deemed to be obvious routine optimization to one of ordinary skill in the art, motivated by the desire to provide required dynamic deformation and durability. Regarding 2), since Renzo teaches the same *in situ* foaming process and the same chemistry for all the components in the shock absorber as the claimed invention, the type of the bonding is deemed to be inherently the same.

For claim 20, Renzo is silent about the density of the PU foam and its various mechanical properties. However, since Renzo teaches that the foam density produces the required overall dynamic compression curve, a workable density and its resultant mechanical properties of the PU foam are deemed to be obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain required shock absorbing properties for the same end use as the claimed invention.

B.2. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Renzo [FR 2559862A, English Translation] in view of Zeitler et al. [US 5,288,549].

The teachings of Renzo are again relied upon as set forth above.

For claim 30, Renzo is silent about the ratio of the isocyanate groups to isocyanate reactive groups. However, Zeitler's invention relates to a composite comprising foamed PU layer and TPU elastomer [col. 1, ll. 7-10; col. 2, ll. 39-40]. The TPU elastomer is made from a mixture having isocyanate (NCO) groups and hydroxyl (OH) groups (i.e., isocyanate reactive groups) at a ratio of 0.85:1 to 1.1:1, and it provides required rigidity in the composite [column 3, lines 15-23]. It would have been an obvious routine optimization to one of ordinary skill in the art to make the TPU elastomer in Rezo's composite by selecting a workable NCO/OH ratio, as taught by Zeitler, because the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07.

B.3. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More particularly, in claim 23 the limitation "elastomer layer is bonded to an outer surface of said molding" is new matter, because nowhere can a support for such a structural relationship be found in the original specification. Applicants must provide an evidentiary support that the inventors, at the time the application was filed, had possession of the claimed invention.

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B.4. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More particularly, the structural limitation “elastomer layer is bonded to an outer surface of said molding” in claim 23 is vague and indefinite, because the original specification lacks any disclosure of a workable embodiment having a structural relationship which can be reasonably interpreted as a support for the claimed limitation. It is unclear what constitutes the scope of the term “outer surface”.

#### **(10) Response to Argument**

Appellants argue at page 6

“To the contrary, the Applicant has repeatedly identified the areas of the specification as originally filed and provided other evidence of what one of ordinary skill in the art would have understood the inventors to have possessed mid to have regarded as the invention. However, in the current rejection, the Examiner has not articulated a single deficiency in the evidence previously submitted. Applicant has identified the clear support for the amendments and Drawings, but will again demonstrate to the Examiner how this matter is contained in the original disclosure (which was originally provided to the Examiner in the November 17, 2003 response).”

However, throughout the original specification, nowhere can a support be found for these terms as describing structural features. Appellants’ repeated arguments that supports are found in the amendments and drawings filed 11/17/2003 fail to understand that these are not part of original specification, and cannot be basis for further amendments.

Appellants argue at page 7

“One of ordinary skill in the art of motor vehicle composite damping elements, as shown by "Fahrwerktechnik: Radaufhangungen", 2<sup>nd</sup> Edition, ed. Prof. Dipl. -Ing. Jornsen Reimpell, Vogel Buchverlag Wurzburg, **which is discussed on page 1, lines 23- 26, of the specification as originally filed**, would understand that the inventors were in possession of complex structures forming the damping elements. (An English equivalent

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is attached as Exhibit A). One of ordinary skill in the art of bonding the flexible microcellular polyurethane elastomer layer to rigid thermoplastic polyurethane molding would understand that the inventors were in possession of chemically bonding to any surface of the rigid thermoplastic polyurethane molding.”

However, the cited reference relates to metal/rubber composite, not TPU/foamed PU composite. There is no evidence whatsoever in the original specification shows that the structure of metal/rubber composite can be directly used by significantly different and mechanically much weaker materials of TPU/foamed PU composite. Further, there is no reasonable expectation that replacement the materials while retaining the same structure would result in workable composite meeting equivalent performance standards. Appellants’ arguments amount to speculating in vacuum that any structural features of metal/rubber composites in Exhibit A are applicable to TPU/foamed PU composites is improper, and the examiner maintains that a proper support in the original specification is lacking.

Appellants point out various sections in the specification at Brief pages 7-10, and argue at page 11

“The Examiner summarily concludes “Applicants’ speculation that one of ordinary skill in the art would find support for the structural elements in claim 23 lacks evidentiary support in the original specification”. However, the Examiner does not point to a single portion or identify one reason that the original disclosure cited above does not support the elements of claim 23.”

However, throughout the specification, the examiner can only find a single support at specification page 10, lines 30-31 for the structural limitation “said elastomer layer is bonded to an inner surface of said molding” in claim 22. Since nothing whatsoever can be identified as a support for the limitation “said elastomer layer is bonded to an outer surface of said molding” in claim 23, the 112 rejections are maintained.

Appellants' similar arguments at pages 12-15 are unpersuasive, and are rejected for the same reasons set forth above.

Appellants' arguments at pages 15-17 directed to the terms "rigid" and "flexible" are misplaced. In particular, appellants are reminded that in Remarks filed 1/2/2008 appellants had argued that the intended scope of the terms "rigid" and "flexible" relate to structural features, not composition properties, as set forth above. Nevertheless, should these terms are interpreted as inherent composition or material properties, the examiner has reinstated the grounds of rejection over Renzo as set forth above, and the arguments are moot.

At Brief pages 18-20, appellants repeatedly point to Exhibit A as a support for claim 23. However, as set forth above, since all the examples in Exhibit A are metal/rubber composites, speculating in vacuum that the same structural features are applicable to TPU/foamed PU composites is improper. The examiner maintains that because the original specification lacks any disclosure of a workable embodiment having a structural relationship which can be reasonably interpreted as a support for the claim 23, it is unclear what constitutes the scope of the term "outer surface".

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section **(9)** above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one

of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/Victor S Chang/

Primary Examiner, Art Unit 1794

**A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:**

/Jennifer Michener/

Director Designee, TC1700

Conferees:

/Jennifer Michener/

QAS, TC1700

/Rena L. Dye/

Supervisory Patent Examiner, Art Unit 1794